PMS: Is It a System

Photo by PH3 Angel Roman-Otero

FC3 Adrian Herevia conducts preventative maintenance and corrosion inspection on a Close-In Weapons System (CIWS) gun barrel aboard USS *Kearsarge* (LHD 3) during the ship's participation in support of Operation Iraqi Freedom.

By ETC(SW) Henry DuPlantier, Naval Safety Center

A system can be defined as a process or organized structure to achieve a goal, whereas a syndrome is defined as a pattern of abnormal function. After completing recent safety surveys, I asked myself, "Is PMS a system where everyone is working towards the same objective of preventive maintenance, or is PMS a syndrome of functional failure?"

Survey after survey, Naval Safety Center teams have discovered lack of attention to detail and a failure to use this "system" for planning, scheduling, and accomplishing preventive maintenance. These problems are seen in all areas: damage-control, electrical, deck, combat systems, main propulsion and auxiliaries, Navy occupational safety and health, medical, hazmat procedures, weapons, and safety administration. Each area has equipment requiring PMS. Has the fleet lost sight of the fact that PMS provides a simple process for identifying equipment deficiencies before they render a piece of gear or a ship less than 100-percent mission-capable? Following are some deficiencies we found during recent safety surveys.

Damage Control. Explosion-proof lights are not being maintained and often are missing tamper-seals or have the wrong bulbs and loose globes. These lights are not only in DC spaces but spread throughout the ship. Supervisors often are unaware about existing PMS requirements for these light fixtures. Review MIP 3301/008 and study the PMS requirements. The MRC even includes an illustration of an explosion-proof light. Look in your spaces to see if they have any lights matching the one depicted in the MRC illustration; if so, add the MIP to your LOEP.

Electrical. Electrically-safe workbenches are not in compliance with requirements for insulation, equipment ground leads, and power disconnects. Such benches require an annual PMS check, with a record maintained in the tool-issue room, along with records of electrical-safety checks on power tools. Workcenters working with energized equipment during bench-testing should review MIP 6652/006 and familiarize themselves with bench-testing procedures.

Deck. Life preservers are not being maintained. Remember, they are designed to keep you afloat should you fall overboard or have to abandon ship. Preserver actuator-assemblies contained the wrong wire, and CO_2 cartridges were not screwed in place. A word to supervisors: Life preservers are covered by PMS MIP 5832. Review your maintenance requirement cards with your workers, and, if necessary, conduct more frequent and intrusive spot checks.

Combat Systems. Many climber safety-rails reflect a lack of PMS. When asked who bears

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responsibility for maintaining the rails, we often receive evasive answers and finger-pointing. Space ownership seems to be the problem. The electronics material officer (EMO) usually is responsible for aloft areas since he is responsible for aloft radiation hazards. This does not by default make the EMO responsible for climber safety rails at engineering stacks or on superstructure bulkheads. Supervisors should review their spaces to determine if they bear any climber safety-rail responsibilities. Consult with the EMO to see if technicians are already performing PMS in that area. If not, then add MIPs 6231/003 and 6641/003 to the responsible workcenter. Maintenance checks under these MIPs cover any aloft rail and its associated ladder.

Main Propulsion. Fuel oil systems with valve-locking devices installed are not having the sample valve closed properly and the valve locking device replaced after each use. MIP 2000 cautions technicians to make sure this maintenance step is completed.

Auxiliaries. We found many rubber flex-hoses installed on air-conditioning chilled-water systems with permanent lagging. MIP 5000/009 requires using removable lagging for PMS accomplishment. Permanent lagging is a dead giveaway that PMS is not being done. Another frequent discrepancy is refrigerant inventory not being maintained. MIP 5140 and 5161 require refrigerant-usage logs for all systems with 50 or more pounds of refrigerant.

Weapons. Safety nets located in escape trunks leading to weapons-storage spaces, sonar dome, and other trunk areas are incorrectly installed. Openings are too wide, painted, and missing weight test tags. Although material condition of the trunk safety nets is not specifically covered by PMS, there are requirements for proper installation shown in NavSea drawing 804-5184163.

Hazmat. Portable emergency eyewash stations are not authorized for shipboard use or are not being properly maintained by PMS. Approved emergency eyewash equipment must be capable of flushing the eyes with potable water at a minimum flow rate of 0.4 gallons per minute for 15 continuous minutes. The velocity of the water must be low enough to not injure the user's eyes. PMS requires eyewash stations to have unobstructed access and contain potable water. Surveyors often found stagnant water or no water in these portable emergency eyewash stations. Review MIP 6000 series for PMS requirements.


Photo by PH3 Casey D. Tweedell

A USS *Constellation* (CV 64) electrician repairs a generator in the ship's motor-rewind shop. One problem discovered during Naval Safety Center surveys is that of electrical work-bench PMS often being overdue or ignored.

In every surveyed area, supervisors appeared uninformed about many of the problems. Whether or not you're a petty officer and supervisor is secondary to the fact that safety is an all-hands responsibility. Overlooked or gun-decked PMS increases mishap potential because of the failure-to-pay-attention-to-detail syndrome. When mishaps occur, the "system" has failed, and shipmates get hurt. You might be next.